



Mini-Circuits

**HAND
FLEX™**

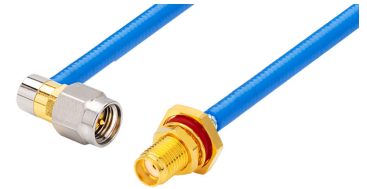
Coaxial Cable

141-6SBSMR+

50Ω 6 inch DC to 18 GHz SMA-Female Bulkhead to Right Angle SMA-Male

THE BIG DEAL

- Wideband frequency coverage, DC to 18 GHz
- Low Loss, 0.34dB typ. at 18 GHz
- Excellent Return Loss, 24 dB typ. at 18 GHz
- SMA-F bulkhead connector at one end
- Hand formable to almost any custom shape without special bending tools
- 8mm bend radius for tight installations
- Anti-torque nut prevents cable stress during installation
- Insulated outer jacket standard
- Connector interface, meets MIL-STD-348
- Ideal for interconnect of assembled systems

*Generic photo used for illustration purposes only*

Model No.	141-6SBSMR+
Case Style	KQ1927-6
Connectors	SMA-Female Bulkhead to Right Angle SMA-Male

+RoHS Compliant

The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Bulkhead connector mounts on front panel of equipment racks
- Replacement for custom bent 0.141" semi-rigid cables
- Communication receivers and transmitters
- Military and aerospace system
- Environmental and test chambers

PRODUCT OVERVIEW

The 141 SBSMR Series Hand-Flex Coaxial Cables are ideal for interconnection of coaxial components or sub- systems to equipment racks. The construction includes a silver-plated copper-clad steel center conductor which maintains the shape after bending. The outer shield is copper braid, tin soaked, which minimizes signal leakage and at the same time flexible for easy bend. Dielectric is low loss PTFE. Both connectors have passivated stainless- steel coupling nut. Right Angle SMA-M has a gold plated connector body, brass center conductor and SMA-F has gold plated BeCuB center conductor.

KEY FEATURES

Feature	Advantages
Hand-Formable RF Cables	The 141 Series Hand-Flex cables are hand formable making them ideal for use integrating coaxial components and sub-assemblies without the need for special cable-bending tools and alleviating the risk of damage during the bending process typical of semi-rigid coaxial cable assemblies.
SMA-F bulkhead connector at one end	Mounts directly on equipment racks eliminating need for bulkhead adapter, thereby improving reliability.
Tight Bend Radius 8mm	Capable of only 8mm bend radius, the 141 Hand Flex series is able to make connections in tight spaces making these cables ideal for dense system integration.
Excellent Return Loss • 36 dB typ. at 6 GHz • 20 dB typ. at 18 GHz	The 141 Series Hand-Flex Cables are ideally suited for interconnecting a wide variety of RF components while minimizing VSWR ripple contribution due to mating cables & connectors.
Good Power Handling Capability: • 211W at 0.5 GHz • 35W at 18 GHz	141 SBSM coaxial cables can support medium to high RF power levels and can be used in the transmit path. (Power rating at sea-level).
Built-in Anti-torque nut on SMA-Male connector	Mini-Circuits 141 Series Hand Flex cables include an anti-torque feature to support the straight SMA connector body during installation alleviating risk of stress to the connector/cable interface
Right angle SMA connectors	Avoids multiple right angle bends and improves reliability.

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ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Condition (GHz)	Min.	Typ.	Max.	Units
Frequency Range		DC		18	GHz
Length ¹		6			inches
Insertion Loss	DC - 2	—	0.07	0.4	dB
	2 - 6	—	0.16	0.6	
	6 - 10	—	0.23	0.8	
	10 - 18	—	0.28	1.1	
Return Loss	DC - 2	23	43	—	dB
	2 - 6	23	34	—	
	6 - 10	17	36	—	
	10 - 18	17	31	—	

1. Custom sizes available, consult factory.

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to +105°C
Storage Temperature	-55°C to +105°C
Power Handling at 25°C, Sea Level	546W at 0.5 GHz 387W at 1 GHz 273W at 2 GHz 156W at 6 GHz 121W at 10 GHz 90W at 18 GHz





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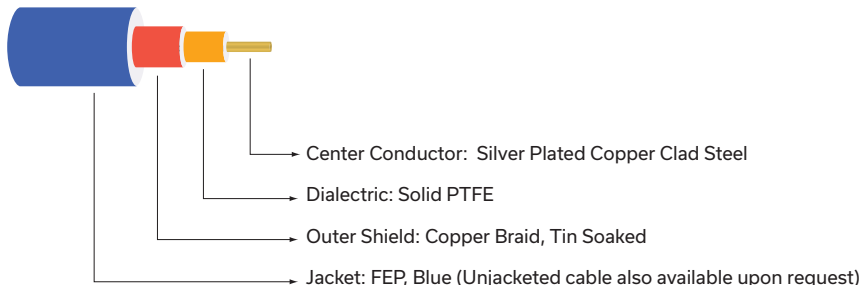
HAND FLEX™

Coaxial Cable

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50Ω 6 inch DC to 18 GHz SMA-Female Bulkhead to Right Angle SMA-Male

CABLE CONSTRUCTION



Connectors:

SMA Male Connector: Coupling Nut: Stainless Steel Passivated

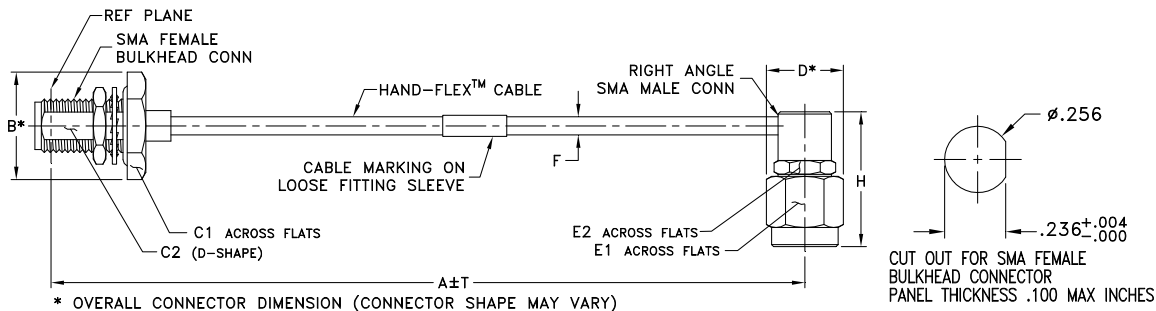
Body: Stainless Steel Gold Plated

Center Pin: Silver Plated Copper Clad Steel

SMA Female Bulkhead Connector: Body & Hex Nut: Stainless Steel, Gold Plated

Socket: BeCu, Gold Plated

OUTLINE DRAWING



OUTLINE DIMENSIONS (Inch/mm)

A	B	C1	C2	D	E1	E2	F	H	T	wt
6.0	.51	.438	.232	.36	.313	.250	.163±.004	.728±.02	0.05	grams
152.40	12.95	11.13	5.89	9.14	7.95	6.35	(4.14±0.10)	18.50±0.5	1.27	13.06





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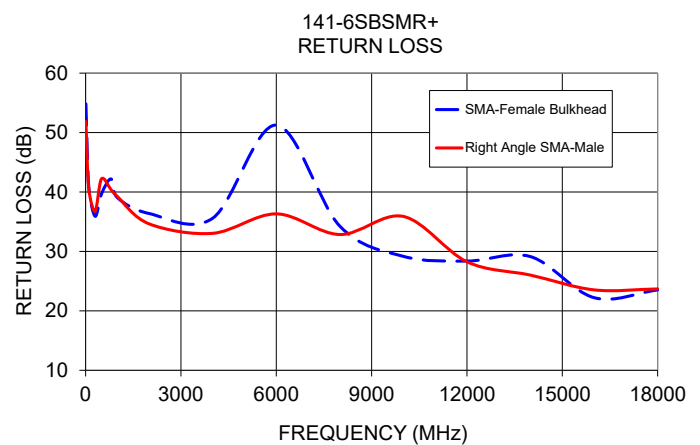
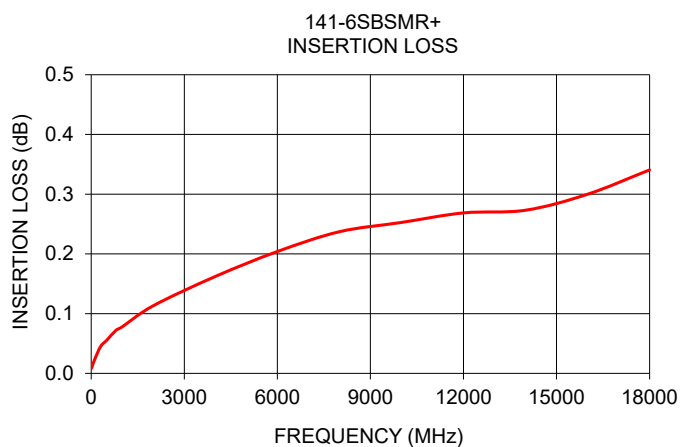
Coaxial Cable

141-6SBSMR+

50Ω 6 inch DC to 18 GHz SMA-Female Bulkhead to Right Angle SMA-Male

TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	
		SMA-Female Bulkhead	Right Angle SMA-Male
10	0.01	54.83	51.87
100	0.02	40.82	40.60
300	0.04	35.91	36.74
500	0.06	39.67	42.21
800	0.07	42.20	40.40
1000	0.08	39.05	39.23
2000	0.11	36.38	34.64
4000	0.16	35.59	33.05
6000	0.20	51.26	36.32
8000	0.24	34.25	32.84
10000	0.25	29.17	35.89
12000	0.27	28.38	28.25
14000	0.27	29.13	26.01
16000	0.30	22.22	23.53
18000	0.34	23.52	23.69



NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html



Hand-Flex Coaxial Cable

141-6SBSMR+

SMA Female Bulkhead/Right Angle SMA Male

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	SMA-FEMALE BULKHEAD RETURN LOSS (dB)	RIGHT ANGLE SMA- MALE RETURN LOSS (dB)
10	0.01	54.83	51.87
50	0.01	45.78	44.17
100	0.02	40.82	40.60
150	0.02	40.82	40.60
200	0.03	36.88	37.36
250	0.04	36.31	36.82
300	0.04	35.91	36.74
350	0.05	35.97	37.04
400	0.05	36.63	38.12
450	0.05	37.71	39.55
500	0.06	39.67	42.21
550	0.06	42.72	45.85
600	0.06	47.11	51.90
650	0.06	60.17	51.43
700	0.06	51.74	46.34
750	0.07	45.32	42.40
800	0.07	42.20	40.40
850	0.07	40.48	39.38
900	0.08	39.42	38.75
950	0.08	38.90	38.86
1000	0.08	39.05	39.23
1500	0.10	43.56	41.26
2000	0.11	36.38	34.64
2500	0.12	46.04	37.94
3000	0.14	34.69	32.86
3500	0.16	31.47	29.99
4000	0.16	35.59	33.05
4500	0.17	33.53	31.12
5000	0.19	32.83	29.75
5500	0.19	47.17	38.61
6000	0.20	51.26	36.32
6500	0.21	37.69	32.75
7000	0.22	35.61	49.70
7500	0.23	40.06	32.78
8000	0.24	34.25	32.84
8500	0.24	28.89	36.69
9000	0.25	31.82	28.56
9500	0.25	41.39	32.00
10000	0.25	29.17	35.89
10500	0.26	30.45	28.52
11000	0.26	37.19	28.89
11500	0.26	40.08	42.05
12000	0.27	28.38	28.25
12500	0.27	31.40	26.28
13000	0.28	26.75	27.14
13500	0.27	29.74	30.44
14000	0.27	29.13	26.01
14500	0.29	23.52	26.70
15000	0.29	27.09	29.23
15500	0.28	33.96	42.31
16000	0.30	22.22	23.53
16500	0.32	22.73	23.00
17000	0.31	29.49	30.78
17500	0.31	25.06	29.79
18000	0.34	23.52	23.69



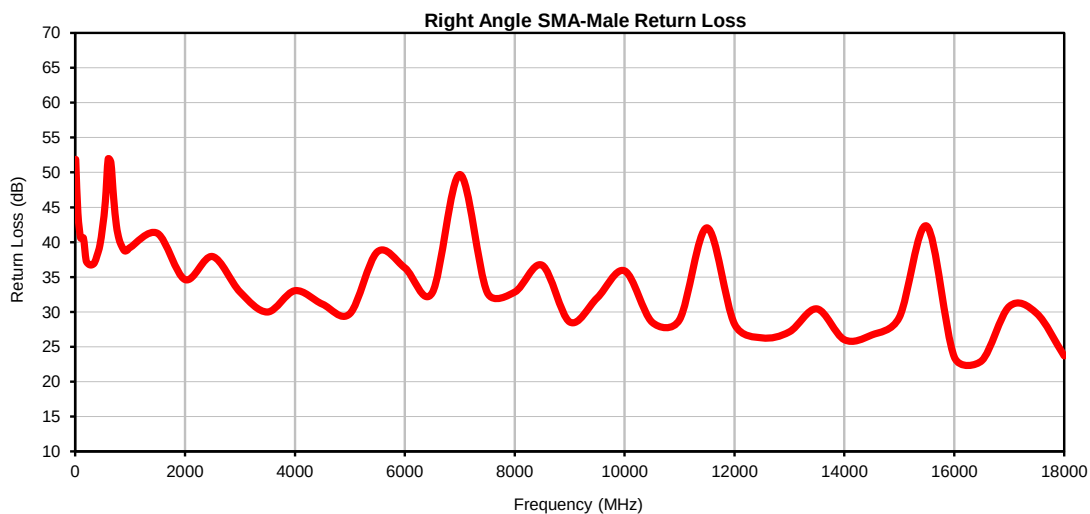
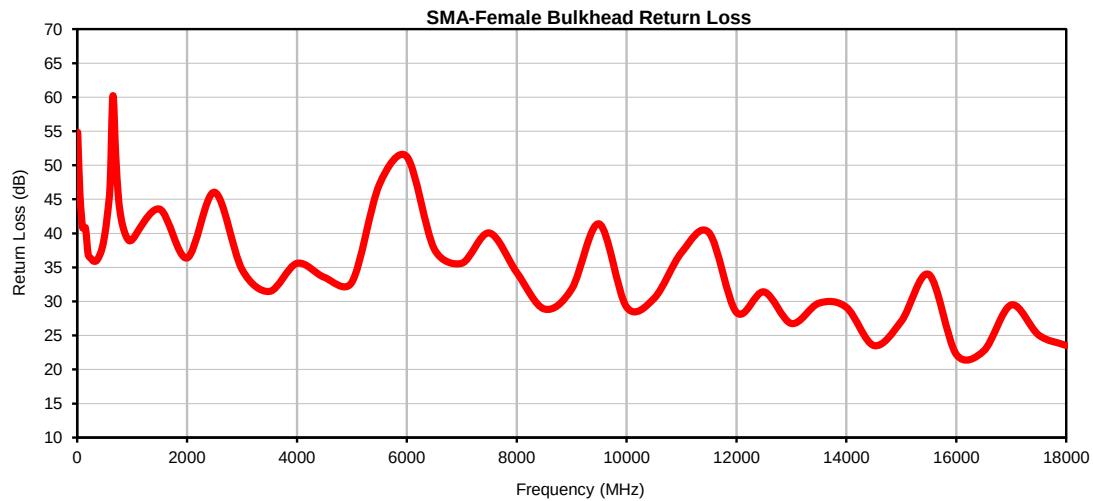
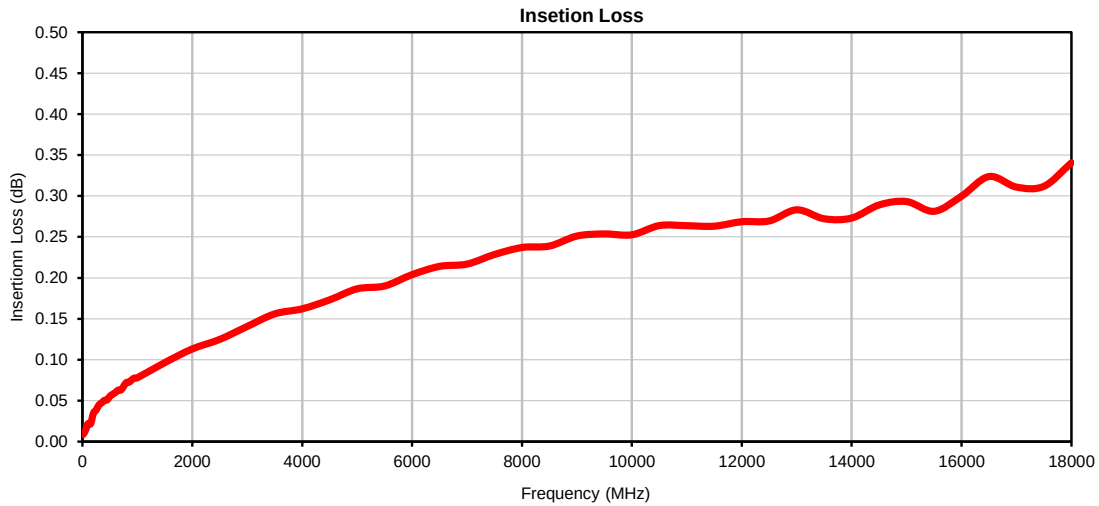
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 • Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site
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IF/RF MICROWAVE COMPONENTS

REV. OR
141-6SBSMR+
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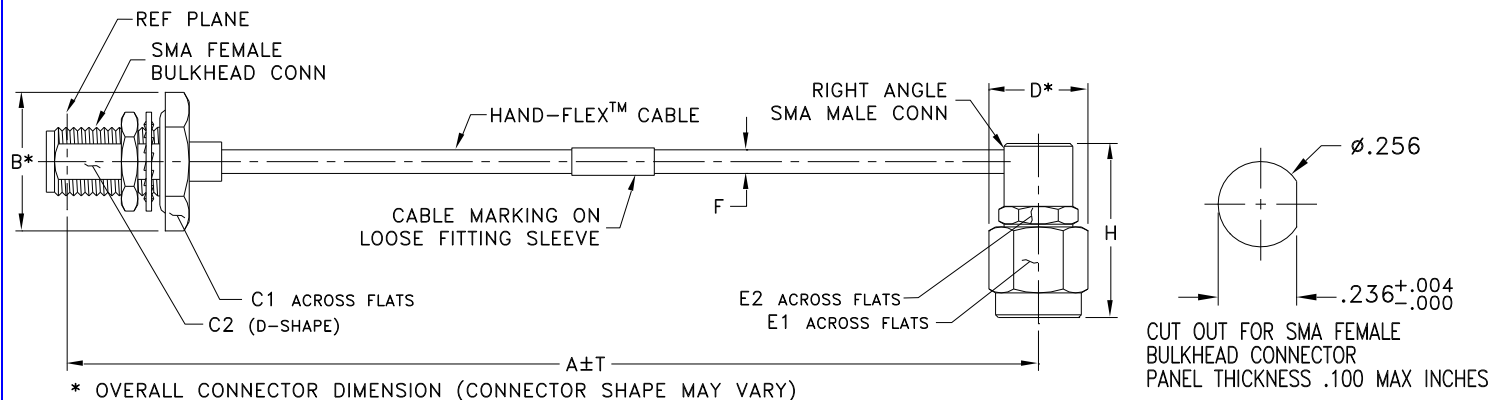
SMA Female Bulkhead/Right Angle SMA Male

Typical Performance Data



Outline Dimensions

KQ1927



KQ1927 SERIES
BULKHEAD SMA FEMALE(CONN-1)
RIGHT ANGLE SMA MALE (CONN-2)

CASE STYLE #	A		B	C1	C2	D	E1	E2	F		G	H	T		WEIGHT GRAMS
	INCH	MM							141U-ASBSMR+	141-ASBSMR+			INC H	MM	
KQ1927-6	6.00	152.40	.51 (12.95)	.438 (11.13)	.232 (5.89)	.36 (9.14)	.313 (7.95)	.250 (6.35)	.139±.002 (3.53±.05)	.163±NOM (4.14 NOM)	-	.728±.020 (18.50)	0.05	1.27	13.06
KQ1927-36	36.00	914.40											0.20	5.08	47.35

Unless otherwise specified dimensions are in inches (mm).

Tolerances: 2Pl. ± .03; 3Pl. ± .015

Note:

1. 141 Hand-Flex™ Coaxial Cable.
2. "A" represents length of cable.



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RF/IF MICROWAVE COMPONENTS



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

Specification	Test/Inspection Condition	Reference/Spec
Operating Temperature	-55° to 105° C or -55° to 85° C (see datasheet) Ambient Environment	Individual Model Data sheet
Storage Temperature	-55° to 105° C or -55° to 85° C (see data sheet) Ambient Environment	Individual Model Data Sheet
Thermal Shock	-55° to 100°C, 100 Cycles	MIL-STD-202F; Method 107G
Multiple Bend Radius	40 mm, 5 times for 141 series cables 30 mm, 5 times for 086 series cables	
Single Bend Radius	8 mm for 141 series cables 6 mm for 086 series cables	